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PATENT  
ATTORNEY DOCKET  
NO. 12-1100/211467-00211

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant:	Michael Wojtowicz	)
Serial No.:	09/833,372	)
Title:	GaN HBT Superlattice Base Structure	)
Group Art Unit:	2815	)
Examiner:	Jackson Jr., Jerome	)
Customer No.:	27160	)
Confirmation No.	3137	)

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**REPLY BRIEF TRANSMITTAL COVER LETTER**

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith for the above-identified application are the following:

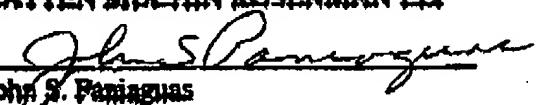
1. Reply to Examiner's Answer of July 7, 2006
2. The Commissioner is hereby authorized to charge any fees which may be required in this application under 37 C.F.R. §§1.16-1.17 during its entire pendency, or credit any overpayment, to Deposit Account No. 50-1214. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-1214. This sheet is filed in triplicate.

Application No. 09/833,372  
Response dated 9/5/2006

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Respectfully submitted,

KATTEN MUCHIN ROSENMAN LLP

  
John S. Paniguras  
Registration No.: 31,051  
Attorney for Applicant

Date: Sept 5, 2006  
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**PATENT****ATTORNEY DOCKET NO. 12-1100/211467-00211****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Michael Wojtowicz.

Serial No.: 09/833,372

Filed: April 12, 2001

Title: GaN HBT Superlattice Base Structure

Group Art Unit: 2815

Examiner: Jackson Jr., Jerome

Customer No.: 27160

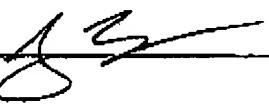
Confirmation No.: 3137

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 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**REPLY TO EXAMINER'S ANSWER**

Sir:

Pursuant to 37 C.F.R. § 41.41, the Applicant hereby submits a reply to the Examiner's Answer within two months thereof. The Reply Brief does not include any new or non-admitted affidavit or other evidence. Accordingly, it is respectfully requested that the Reply Brief be entered.

It is respectfully submitted that the Examiner in his reply brief continues to apply references in a piecemeal basis using the claims as a blueprint in contravention of the MPEP and established case law of the Court of Appeals of the Federal Circuit. As set forth by the Court of Appeals for the Federal Circuit in *Teleflex v. KSR International Co.*, 119 Fed. Appx. 282 (Fed. Cir. 2005) "...the Examiner must show reasons that the skilled artisan, confronted with the same

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Appl. No.: 09/833,372

Response dated : September 5, 2006

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problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." Knowledge alone is insufficient to satisfy the requirement that the Examiner must still provide a showing of a motivation to make the claimed combination ("...the test of whether it would have been obvious to select specific teachings must still be met by identification of some suggestion, teaching, or suggestion in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention.") In this case, the Examiner has failed.

The Patent Office rules for evaluating whether a proper case of obviousness has been made out are set forth in MPEP § 2143. As stated in the Applicant's Appeal Brief, it is respectfully submitted that the Examiner has failed to establish a *prima facie* case of obviousness as required by MPEP § 2143. In particular, in order to establish a *prima facie* case of obviousness pursuant to MPEP § 2143, three criteria must be met. "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or reference when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claim combination and the reasonable expectation of success must both be found in the prior art, not in the Applicant's disclosure."

It is respectfully submitted that the impropriety of the obviousness rejection is well demonstrated in the Examiner's answer. In particular, it is respectfully submitted that the Examiner's showing of the suggestion as required by MPEP § 2143 is flawed. In particular, the Examiner argues in paragraph f on page 5 of the Answer that "JP'934 and JP'164 each provide motivation for why one would have wanted to employ an AlGaN/GaN superlattice in the base region of Song's AlGaN HBT." How can this be? The JP'934 and JP'164 references do not even disclose a AlGaN/GaN superlattice structure. Actually the JP'934 and JP'164 references relate to different material systems. Indeed, the device disclosed in the JP'934 patent discloses a InP/InGaAs material system while the device disclosed in the JP '164 reference discloses a AlGaAs/GaAs material system. It is common knowledge that teachings of individual material systems are not applicable to other material systems in the semiconductor fabrication art.

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Notwithstanding, neither of the JP references provides a motivation to substitute a AlGaN/GaN superlattice structure into the semiconductor structure disclosed in the Song reference. In fact, it is respectfully submitted that the Examiner dropped the rejection of claims 1, 8 and 9 based upon the Song and the JP'934 and JP'164 references for this reason.

In addition, none of the references disclose all of the claimed limitations as required by MPEP § 2143. In particular, none of the references teach a AlGaN layer formed on top of the superlattice forming a base emitter interface. Indeed, the Song reference does not disclose a superlattice layer at all. The Razeghi reference teaches GaN layer formed on top of the superlattice. Furthermore, none of the references teach a base collector interface which includes a doped GaN collector and a superlattice base formed thereupon. The Razeghi reference teaches a collector base interface which includes an undoped GaN layer in contact with the superlattice. If anything, these references teach away from the invention. Nonetheless, it is respectfully submitted that the Examiner has not only failed to properly demonstrate motivation to combine the references as suggested but has also failed to show that the references show all of the claim elements. The claimed collector and emitter layers which are claimed as interfaces and thus in contact with the superlattice base layer are not disclosed in any of the references. As set forth above, the failure to demonstrate that all of the claim elements are shown by the references is in contravention of MPEP § 2143. As such, it is respectfully submitted that the Examiner has failed to set forth a prima facie case of obviousness for this reason alone. For all of the above reasons, the Board is respectfully requested to reverse the rejection of the claims.

Respectfully submitted,

KATTEN MUCHIN ROSENMAN LLP

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John S. Paniegas  
Registration No. 31,051

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From	Attorney Number
John S. Paniaguas	32347
Phone	Fax
312.902.5312	312.577.4532

Total number of pages, including cover letter: pages  
 If you do not receive all of the pages, please call: 312.902.5312

**Comments**

RE: Patent Application No.: 09/833,372  
 Filing Date: 04/12/2001  
 Inventor: Michael Wojowicz  
 Title: GaN HBT Superlattice Base Structure  
 Confirmation No.: 3137

Please file the attached:  
 Transmittal Form (1 p.)  
 Reply Brief Transmittal (2 pp) (in triplicate)  
 Reply to Examiner's Answer (3 pp.)

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PAGE 1/7 \* RCVD AT 9/5/2006 5:29:36 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-5/16 \* DNIS:2738300 \* CSID:3129021061 \* DURATION (mm:ss):01:18

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U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
Application for Use Under 35 U.S.C. 156. OMB 0651-0037**TRANSMITTAL FORM**

(To be used for all correspondence after initial filing)

Total Number of Pages in This Submission:

Application Number	08/733,572
Filing Date	April 12, 2001
First Named Inventor	MICHAEL WILHELM
Art Unit	2815
Examiner Name	JEREMY A. JEROME

Attorney Docket Number: 12-1100211467-00211

**ENCLOSURES (Check all that apply)**

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<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition:	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> <input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	Katten Muchin Rosenman LLP		
Signature	<i>John S. Ramogna</i>		
Printed Name	John S. Ramogna		
Date	September 05, 2006	Reg. No.	31,051

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Type or printed name	Mary T. Chapman	Date	September 05, 2006

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